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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,737	07/21/2003	Paul Teufel	7707.0023-00	2798

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EXAMINER
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AFTERGUT, JEFF H

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 12/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/622,737	<b>Applicant(s)</b> TEUFEL ET AL.	
	<b>Examiner</b> Jeff H. Aftergut	<b>Art Unit</b> 1733	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) 15-28, 30, 41-50, 52, 54 and 56 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 31-40, 51, 53 and 55 is/are allowed.
- 6) ☒ Claim(s) 1, 6-14 and 29 is/are rejected.
- 7) ☒ Claim(s) 2-5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10-31-2003</u> . | 6) <input type="checkbox"/> Other: _____  |

***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1-14, 29, 31-40, 51, 53, and 55 in the reply filed on October 26, 2005 is acknowledged. The traversal is on the ground(s) that the claimed method could not be practiced by hand and additionally the claimed apparatus could not be used in a materially different process as there is no evidence provided by the examiner. Applicant also argues that there is no serious burden on the examiner to search all of the presented claims. This is not found persuasive because as previously noted, one skilled in the art could create a vacuum via one's mouth in order to draw the mandrel away from the part (suction via the mouth). Additionally, and of more significance, it is clear that the proposed apparatus was clearly capable of being utilized in another and materially different operation which included the separation of the part from the mandrel and the coating of the interior of the part with a protective coating (an abrasion resistant coating for example). The applicant argues that there is no evidence provided for this, however the applicant has not disputed that the apparatus could be used in a materially different process. Also, there is clearly associated search burden associated with both the method and the apparatus. Of import here is not only search burden but also examination burden associated with maintaining both the method and the apparatus in the same application. Applicant is advised that because the processing preformed by the apparatus is not of patentable import (or of lesser import so long as the apparatus is capable of performing the identified functions), there is a serious burden associated with keeping both the apparatus and the method in the same application. Additionally, class 156 has both

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method of manufacture and apparatus of manufacturing products therein and the fact that the application was classified in the same class does not mean that there is no undue search burden associated with the same.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 15-28, 30, 41-50, 52, 54, and 56 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on October 26, 2005.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 6-9, 11, 13 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Morales et al.

Morales et al taught that it was known at the time the invention was made to employ a mandrel 10 for a fiber performing process which mandrel or tooling 10 included openings therein in order to allow for the creation of a vacuum in the mandrel. The mandrel 10 was additionally provided with a coating on the surface 14 (a debonding agent) thereon which facilitated the separation of the perform component from the

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mandrel. The operation included the removal of the formed part after curing of the resin therein. The reference therefore taught all of the required steps of creating a vacuum in the mandrel, applying a debonding agent on the surface of the mandrel and removing the part from the mandrel as claimed. It should be noted that the order of the steps (i.e. the application of the debonding agent) is not required subsequent to the application of the vacuum as claimed.

With regard to claim 6-9, note that the processing of Morales et al involved the application of vacuum repeatedly (as one perform was formed and subsequently removed another perform would then be formed on the mandrel and thus the reference suggested creation and release of the vacuum alternately). Regarding claim 9, note that the vacuum was clearly created for 5-10 seconds in the processing described. Regarding claim 11, note that the debonding agent was permanently applied to the surface of the mandrel in Morales and thus it was applied for a designated period of time. Regarding claims 13 and 14, the reference taught that the perform formed therein was suitable for a truck bed, i.e. a frame component. This is part of the frame for a vehicle. While it is not an aircraft part, regarding claim 14, it is not seen how the specific shape of the part (a fuselage) defines any structure over that which was conveyed by Morales.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1,6-14 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiltshire in view of Morales et al.

Wiltshire suggested that one skilled in the art would have formed a perform by applying chopped fiber and resin onto a mandrel wherein the mandrel included means for application of vacuum within the mandrel in order to assist in the pick up of the resin and fibers on the mandrel. The reference thus suggested the formation of a part wherein the mandrel included the application of vacuum for drawing the fibrous material against the form of the mandrel. The reference taught that one skilled in the art would have utilized a suitable automated control system to control the operation, column 4, lines 26-33. the reference additionally taught that the formed part on the mandrel was cured on the mandrel and then subsequently removed therefrom. The reference failed to teach that those skilled in the art at the time the invention was made would have applied a coating upon the mandrel prior to or after fiber laying in order to ensure that the part was easily removed from the screen.

The reference to Morales et al suggested that those skilled in the art of forming performs wherein chopped fibers were vacuum formed on a tool or mandrel would have provided the tool or mandrel with a coating of a release agent on the screen itself, see column 1, lines 41-51. Note that Morales provided the tooling with a permanent coating thereon. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a release agent which was coated upon the mandrel in

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Wiltshire in order to allow for easy removal of the components subsequent to formation of the same as such was suggested by Morales et al.

With regard to the various dependent claims (6-9, 11, 13, and 14) the applicant is referred to the discussion of Morales above. Regarding claim 29, note that the reference to Wiltshire suggested the use of a controller (presumably a computer) to control the operation of forming and removal. Regarding claim 10 note that the reference to Morales suggested the application of a liquid debonding agent on the mandrel. While the reference did not expressly state that the debonding agent was isopropyl alcohol, isopropyl alcohol is taken as a conventional debonding agent (and it certainly would have been within the purview of the ordinary artisan to utilize conventional debonding agents). Regarding claim 12, one skilled in the art would have determined the suitable time necessary to obtain a separation of the composite material from the form and such would have included a time of 3-5 minutes.

***Allowable Subject Matter***

7. Claims 2-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the prior art suggested that one skilled in the art would have cut an access port through the part prior to creation of a vacuum in the mandrel as defined in claims 2 and 3. Additionally, there is no indication that one skilled in the art would have employed media filled mandrels wherein one skilled in the art would have subsequently

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had to remove media from the mandrels. Regarding claim 5, note that the prior art failed to teach the releasing of the vacuum prior to application of any debonding agents.

8. Claims 31-40, 51, 53, and 55 are allowed.

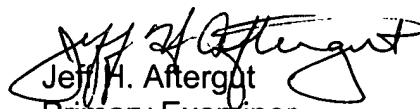
None of the prior art taught or suggested the cutting of an access port in the part in the process of removing the mandrel from the part wherein one included the steps of applying vacuum, applying a debonding agent and removing the part from the mandrel.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff H. Aftergut whose telephone number is 571-272-1212. The examiner can normally be reached on Monday-Friday 7:15-345 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jeff H. Aftergut  
Primary Examiner  
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JHA  
December 5, 2005